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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,721	07/24/2001	Song Chen	9824-067-999	5513

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NEW YORK, NY 10036-2714

EXAMINER

LEE, JOHN J

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/912,721

Applicant(s)

CHEN ET AL.

Examiner

JOHN J. LEE

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1,13-16,19,20,24,27,31 and 42-45 is/are rejected.
- 7) ☒ Claim(s) 2-12,17,18,21,22,25,26,28-30,32-41,46 and 47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments with respect to claims 1 - 47 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 13-16, 19, 20, 24, 27, 31, and 42-45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (US Patent number 7,032,223) in view of Cheng et al. (US Patent number 6,405,309).

Regarding **claims 1 and 31**, Liu discloses that a wireless communication system for hosting a plurality of processes, each process in said plurality of processes executed in accordance with a optimizes conversion, the optimizes conversion including a set of functions (Fig. 1 and column 4, lines 22 – column 5, lines 60). Liu teaches that a plurality of application specific instruction (a plurality of application specific instruction circuit) set processors (ASISP) (processors in Fig. 1), each ASISP (Fig. 1) capable of executing a subset of said set of functions included in said communication protocol (column 5, lines 13 – column 6, lines 22, Fig. 1, and column 4, lines 22 - 42, where teaches the a plurality of application specific instruction circuit set processors operate a subset of the set of communication protocol). Liu teaches that a scheduler (151, 121 in Fig. 1) connected to said plurality of ASISPs (coupled to the processors) for scheduling said plurality of

ASISPs in accordance with a time-slicing algorithm so that each process in said plurality of processes is supported (column 33, lines 35 – column 34, lines 13, where teaches any of ASIC processing blocks operating in each time slice can be done in either hardware or software) by said wireless communication system (column 34, lines 14 – column 35, lines 40, abstract, and Fig. 1, 5, where teaches the scheduler coordinates transfer of data object to and from a transport convergence data object memory that is shared in common with all the ASIC blocks means coupled to the plurality ASIC processors in accordance with a time-slicing so that computation results from each ASIC TC signal processing circuit can be passed between other ASICs to form a logical pipeline). Liu does not exactly disclose the limitation “the wireless communication system”. However, this would have been obvious to one having ordinary skill in the art at the time of applicant’s invention, because the Liu teaches communicating to the remote transceiver over the wireless ATM network (see Fig. 1 and column 21, lines 51 – column 22, lines 3), furthermore, Cheng supportly teaches the limitation “the wireless communication system has a plurality of processors executed in accordance with a communication protocol” (Fig. 1 and column 2, lines 54 – column 3, lines 30, where teaches a communication system has a satellite connection, wireless connection, RF connection link and plurality of processors for executing in a accordance with communication protocol). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Liu system as taught by Cheng, provide the motivation to achieve enhancing communication reliability and adaptability in communication network.

Regarding **claims 13, 14, 42, and 43**, Liu and Cheng teach all the limitation, as discussed in claim 1. Furthermore, Liu further teaches that communication protocol is selected from the group consisting of IS-95 CDMA, IS-95B CDMA, CDMA TIA IS2000, TIA IS 2000A, wideband CDMA (WCDMA), cdma2000, and ARIB WCDMA (column 3, lines 1 – 9, Fig. 1, and column 4, lines 22 – 42, where teaches the invention applies any particular communications environment for satisfying performance requirements of a communications protocol (CDMA, TDMA, ATM, DSL, ADSL, XDSL) used for the communications transmission).

Regarding **claims 15 and 16**, Liu and Cheng teach all the limitation, as discussed in claims 1 and 13. Furthermore, Liu further teaches that the communication protocol is a time division multiple access protocol (column 20, lines 56 – 61, Fig. 1 and column 35, lines 62 – column 36, lines 2).

Regarding **claims 19 and 44**, Liu teaches that each process in said plurality of processes is an echo (abstract, Fig. 1, and column 7, lines 36 – 65, where teaches each ASIC processor can be passed (receive and transmit) between other ASICs as operating cycle).

Regarding **claims 20 and 45**, Liu and Cheng teach all the limitation, as discussed in claims 1 and 19.

Regarding **claim 24**, Liu and Cheng teach all the limitation, as discussed in claim 1.

Regarding **claim 27**, Liu and Cheng teach all the limitation, as discussed in claim 1.

Allowable Subject Matter

4. Claim 23 is allowed.

Claim 23 is allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claim 23.

As recited in independent claim 23, none of the prior art of record teaches or fairly suggests that providing a centralized controller for sending control commands to each said ASISP in said plurality of ASISPs, and the centralized controller schedules the functions calculated by each said ASISP in said plurality of ASISPs in a master/slave relationship, thereby reducing said amount of inter-process overhead between said computing components in said device, and together with combination of other element as set forth in the claim 23. Therefore, claim 23 is allowable over the prior art of records.

5. Claims 2-12, 17, 18, 21, 22, 25, 26, 28-30, 32-41, 46, and 47 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose “an input register for receiving an input program and state associated with a process in said plurality of processes, each instruction in said input program being part of a limited purpose instruction set that supports said subset of functions included in said communication protocol and an output register for storing a value that indicates a state of said process after execution of said

input program, and the limited purpose instruction set includes a "wait" instruction for synchronization, and each application specific instruction set processors (ASISP) in said plurality of ASISPs is configured so that when said "wait" instruction is received by said input register, the ASISP does execute a communication protocol function during said predetermined period of time and then automatically returns to an idle state thereby reducing a power consumption of the ASISP during the predetermined period of time, and the ASISP is a combiner ASISP and said subset of functions comprises a frequency error estimation, a finger energy estimation, and a signal-to-interference (SIR) estimation, and each said ASISP in said plurality of ASISPs is capable of executing said subset of said set of functions on a time-scale of about 400 to about 5,000 times per second" as specified in the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sakai et al. (US 6,751,478) discloses Mobile-Service Switch Home Memory Node, and Gateway Switch.

Ma et al. (US 7,062,769) discloses Object-Oriented Processor Design and Design Methodologies.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Art Unit: 2618

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
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or faxed (571) 273-8300, (for formal communications intended for entry)


Or: (703) 308-6606 (for informal or draft communications, please label
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters,
Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**.
He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00
pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor,
Edward Urban, can be reached on **(571) 272-7899**. Any inquiry of a general nature or
relating to the status of this application should be directed to the Group receptionist
whose telephone number is (703) 305-4700.

J.L
January 18, 2007

John J Lee


JOHN J. LEE
Commissioner of Patents and Trademarks
U.S. DEPARTMENT OF COMMERCE
WASHINGTON, D.C. 20231